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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,787	08/03/2006	Ronald F. Wilson	8328-5/MIW/SS/44269	6170

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111 MONUMENT CIRCLE, SUITE 3700
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EXAMINER	
CHAWAN, SHEELA C	
ART UNIT	**PAPER NUMBER**
2624	
MAIL DATE	**DELIVERY MODE**
11/17/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/549,787	WILSON ET AL.	
	Examiner	Art Unit	
	SHEELA C. CHAWAN	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *30- 51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *30-33 and 41-44* is/are rejected.

7)☒ Claim(s) *34-40 and 46- 51* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/19/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Preliminary Amendment

2. Preliminary amendment filed on 9/19/05 has been entered.

Claims 1-29 are cancelled.

Claims 30- 51 are new claims.

Claims 30- 51 are pending in the application.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on 9/19/05 the information disclosure statement is being considered by the examiner.

Drawings

4. The Examiner has approved drawings filed on 9/19/05.

Specification

5. The abstract of the disclosure is objected to because abstract should on a single page. Correction is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 30 - 33 and 41- 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Csipkes et al., (US. 5,768,401, Listed in IDS field on 9/19/05), in view of Birlem O et al., (EP. 1028305, Listed in IDS field on 9/19/05).

As to claim 30, Csipkes discloses machine vision equipment for determining at least one physical property of a smoking article (abstract), the equipment comprising:

a camera defining a field of view and being adapted to form an image of said article within said field of view (column 10, line 55 through column 11, line 2, column 14, lines 26-36), and a processing unit which processes said image to determine at least one physical property of said article (column 11, lines 25- 34);

a first support which supports said article within said field of view at a predetermined distance from said camera(column 19, lines 50-56);

an adjusting unit which automatically adjusts the configuration of the camera;

a processor which determines the optimum configuration of said camera by processing at least one image of a reference object placed on the second support (column 11, lines 35-44); and

a controller which controls operation of said moving mechanism, camera, adjusting unit, and processor in order to bring a reference object supported by said second support into the camera's field of view, to image said reference object, to determine the optimum configuration of the camera, and to adjust the camera to said optimum configuration (column 25, line 40 through column 26, line 3, column 26, lines 4-8).

Csipkes is silent about a second support which supports a reference object having at least one accurately known dimension;

a moving mechanism which selectively moves at least one of the camera, the first support, and the second support such that a reference object placed on the second support is disposed within the camera's field of view at said predetermined distance from said camera;

Birlem O et al., discloses an optical measurement device, whereby the body is passed through at least one measurement region of a sensor. A calibration measurement process is performed in the sensor with a calibration element insensitive to ambient influences with know absolute parameter values, the measurement values are stored and then compared with measurement values. The system comprises of:

a second support which supports a reference object having at least one accurately known dimension (note, determining the diameter of a thread using an optical sensor, the apparatus comprising second supporting for supporting a reference object having at least one accurately known dimension and (see paragraph 0026);

a moving mechanism which selectively moves at least one of the camera, the first support, and the second support such that a reference object placed on the second support is disposed within the camera's field of view at said predetermined distance from said camera (see paragraph 0026).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Csipkes to include a second support which supports a reference object having at least one accurately known dimension;

a moving mechanism which selectively moves at least one of the camera, the first support, and the second support such that a reference object placed on the second support is disposed within the camera's field of view at said predetermined distance. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Csipkes by the teaching of Birlem O et al., in order to improved determination of thread parameters, as suggested by Birlem O et al.

As to claims 31 and 42, Csipkes discloses machine vision equipment as claimed in claim 30, wherein said processor is adapted to determine the optimum configuration of the camera by processing a plurality of images of said reference object obtained with said camera in different respective configurations, and said controller is adapted to control said camera, adjusting unit, and processor to obtain and process serial images

of said reference object whilst adjusting progressively the configuration of the camera, and to determine the optimum configuration on the basis of said serial images (note, a machine vision system configured to control focus adjustment mechanism and to receive from camera and store a series of combined images, each of said combined images of said series being captured during a different focus of said optical system).

As to claims 32 and 43, Csipkes discloses machine vision equipment as claimed in claim 31, wherein said adjusting unit is adapted to adjust the focal length of the camera, said processor is arranged to determine optimum focal length, and said controller is adapted to control the adjusting unit, camera, and processor to obtain and process serial images of the reference object at different respective focal lengths, and to determine the optimum focal length at which the reference object is best in focus, and to control the adjusting unit thereafter to adjust the focal length of the camera to said optimum focal length (note, a machine vision system configured to control focus adjustment mechanism and to receive from camera and store a series of combined images, each of said combined images of said series being captured during a different focus of said optical system).

As to claims 33 and 44, Csipkes discloses machine vision equipment as claimed in claim 30, wherein said second support is configured to support a reference object having substantially the same shape and size in substantially the same orientation in said field of view as said article (note, camera 64a is positioned to receive the feature image from the objective 101, and one or more cameras 64b are positioned to receive a corresponding boundary segment image from the objective 101. In turn, each camera

64a, 64b converts its corresponding image into an electrical signal that is passed to the machine vision system 34, as is indicated by the reference arrow 45. The cameras 64a, 64b are essentially custom made CCD devices, each being basically the same size and each preferably having a scan of 480.times.32 pixels, column 15, lines 47- 56).

Regarding claim 41, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 30.

Regarding claim 42, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 31.

Regarding claim 43, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 32.

Regarding claim 44, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 33.

Allowable Subject Matter

7. Claims 34- 40, 46- 51 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Non of the prior art on record teaches or fairly suggests, machine vision equipment, wherein said camera comprises a digital camera which is adapted to form said image as a regular array of pixels, as required by claim 34 and 45.

Regarding claims 35 and 46 machine vision equipment, wherein said processor is adapted to compare an actual measured value of said at least one dimension of said

reference object with said accurately known value, said adjusting unit is adapted to adjust the calibration of said imaging unit, and said controller is configured to control said camera, processor and adjusting unit to measure said at least one dimension of said reference object to obtain a measured value, to compare said measured value with theaccurately known value, and to adjust the calibration of the camera accordingly such that the measured value equals the known value.

Regarding claims 36 and 47, machine vision equipment, wherein said second support is adapted to support a plurality of reference objects, each having substantially the same shape as said article, but each having a different respective, accurately known value of said at least one dimension; said moving mechanism is adapted to move selectively one or more of the camera, the first support and the second support to bring each reference object in turn into the camera's field of view at the said predetermined distance from the camera; and said processor is adapted to compare the measured value of said at least one dimension of each reference object with the respective accurately known value, and to generate a calibration curve for said camera on the basis of said comparisons.

Regarding claims 37 and 48, machine vision equipment, wherein said second support is adapted to support three or more reference objects.

Regarding claims 38 and 49, machine vision equipment as claimed in claim 37, wherein each reference object comprises a cylindrical bar of accurately known diameter.

Regarding claims 39 and 50, machine vision equipment as claimed in claim 38, wherein said second support comprises at least one holder for holding each reference object, each holder defining a V-shaped cavity which is configured to receive transversely a cylindrical reference bar at the same depth into the cavity regardless of the diameter of the bar.

Regarding claims 40 and 51, machine vision equipment, wherein aid second support comprises two holders for holding each reference object, one holder at or towards each end of the respective bar.

Other prior art cited

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ludlow (US. 6169600 B1) discloses cylindrical object surface inspection system

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sheela C Chawan whose telephone number is. 571-272-7446. The examiner can normally be reached on Monday - Thursday 7.30 - 6.00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sheela C Chawan/

11/10/08

Primary Examiner, Art Unit 2624